

## ABSTRACT OF THE DISCLOSURE

The object of the invention is to provide a system which can be produced at a low cost and can simultaneously eternally monitor the quality of building structure, a monitoring method and a semiconductor integrated circuit device for them. To achieve the object, a monitoring chip provided with a sensor, a microprocessor, a memory, a radio interface, an electric power controller and an electric power generator is mixed when concrete paste is prepared. The monitoring chip intermittently monitors information of whether the management of temperature when concrete is cured is adequate or not, whether the quantity of moisture and chloride ions in concrete paste is adequate or not or whether a state of stress inside concrete is in question or not by a temperature sensor, an electric resistance sensor and a pressure sensor respectively built in the monitoring chip using the built-in electric power generator as a power source, and stores in a built-in memory in case an abnormal value is measured. Collected quality data is transmitted according to a request from an external inspection device by radio. The inspection device determines the quality of building structure based upon the transmitted quality data.